

KOSTKUBA, J.

Mechanical scale removal during rolling. p. 226. (HUTNIK, Vol. 7, No. 7, July 1957, Praha, Czechoslovakia)

SD: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 12, Dec 1957. Uncl.

L 3750-66

ACCESSION NR: AP5027818

CZ/0057/65/000/001/0031/0034

AUTHOR: Kostkuba, Josef

TITLE: Steel scorching by hand burners

SOURCE: Hutnik, no. 1, 1965, 31 - 34

TOPIC TAGS: steel, metal heat treatment, metallurgic furnace, metallurgic machining

ABSTRACT: Hand burners currently used in Czechoslovakia are described. The depth of the cut and its connection to the rate of scorching are discussed. Methods of preheating are reviewed; the technique of operating the burners is described, and best methods for removing the imperfections from ingots are discussed. The rates of operation and consumption of heating gases are reviewed. Mechanized lines for hand scorching of ingots are described. Orig. art. has: 1 table.

ASSOCIATION: Hutni projekt, Prague (Metallurgical Projects)

SUBMITTED: 00

ENCL: 00

SUB CODE: IE, MM

NO REF SOV: 000

OTHER: 000

JPRS

Card 1/1

KOSTKUBA, Jozef, ins.; BORTNOWSKI, R., mgr ins. [translator]

Contemporary methods of mechanical removal of scale from  
the surface of rolled products. Wiad hut 16 no.7/8:218-225  
Jl-Ag-'60.

1. Hutni Projekt, Praga, CSR.

L 43907-05 EWP(k)/EWP(h)/EWP(l)/EWA(d)/EWP(v)

ACCESSION NR: AP5020713

CZ/0057/64/000/012/0592/0597

AUTHOR: Kostkuba, Josef

TITLE: Cleaning of the intermediate product surfaces for pipe manufacture by mechanical flame application

SOURCE: Hutnik, no. 12, 1964, 592-597

TOPIC TAGS: pipe, metal finishing, metalworking machinery

ABSTRACT: <sup>44</sup> <sup>55</sup> Flame application under hot and cold conditions is described; practical experience with the process and improved production yields are evaluated. The surface cleaning achieved by flame application is compared to old-fashioned mechanical methods. Best location of the installation in a plant is evaluated. T. T. machines CM 27 and 47 made by the Union Carbide Corp. and operational experience with them in Czechoslovakia is described. Influence of temperature changes and of oxygen purity are evaluated. Possible improvement of the machine is discussed. Orig. art. has 5 figures and 5 graphs.

ASSOCIATION: Hutni projekt, Prague (Metallurgical Projects)

Card 1/2

ACCESSION NR: AP5020713

SUBMITTED: 00

ENCL: 00

SUB CODE: IE

NO REF SOV: 000

OTHER: 004

JPRS

Card 2/2

KOSTLAN, Jarmil, MUDr.; SOYKA, Oto, MUDr.; PRASIL, Karel, MUDr.

Effect of TS 160 in the treatment of chronic gingivitis and periodontosis. Cas. lek. cesk. 91 no.22:649-651 30 May 52.

1. Z I. stomatologicke kliniky prof. dr. K. Mest'ana, z III. interni kliniky prof. dr. J. Charvata a z II. pathologicko-anatomickeho ustavu prof. dr. V. Jedlicky v Praze.

(NITROGEN MUSTARDS, therapeutic use,  
gingivitis & periodontosis)

(PERIODONTIUM, diseases,  
ther., nitrogen mustards)

(GINGIVITIS, therapy,  
nitrogen mustards)

KOSTLAN, Jarmil, Doc. Dr.

Structure of the dental calculus. Cesk. stomat. No.5:185-190  
Sept 54.

1. Z vyskumneho ustavu stomatologickeho v Praze  
(~~TENTH~~, calculi  
structure)

KOSTLAN, Jarmil, doc. Dr

Alkaline phosphatase and dental calculi. Cesk.stomat. no.3:72-75  
May 55.

1. Z Vyskumneho ustavu stomatologickeho v Praze  
(PHOSPHATASES  
alkaline, in etiol. of dental calculi)  
(TEETH  
tartar form., role of alkaline phosphatases)



KOSTLAN, J.

SKACH, Miroslav. MUDr. KOSTLAN, Jarmil Doc.Dr.; BOUCEK, Zdenek MUDr

Studies on neurotrophic effects from the oral cavity. Cesk.  
stomat. no.4-5:136-154 JI '55.

1. Z II. Stomatologicke kliniky KU a z Vyskumneho ustavu  
stomatologickeho v Praze.

(NERVES, TRIGEMINAL, physiology,  
eff. of irritation, dent.aspects)

KOSTLAN, Jarmil, Dsc.Dr

Partial burning of the ground section of the tooth as a method in histological examination of the tooth in normal conditions and in dental caries. Cesk.stomat. no.4-5:201-204 JI '55.

1. Z Vyzkumneho ustavu stomatologickeho v Praze.

(TEETH, anatomy and histology,  
prep. of specimens in normal cond. & in dent.  
caries by partial burning)

(DENTAL CARIES, pathology,  
histol. exam. of tooth specimens prep. by  
partial burning)

KOSTLAN, Yarmil, dotsent

Development of dentistry in Czechoslovakia since 1954.  
Stomatologia no.5:55-57 S-0 '55.

(MLRA 9:2)

(DENTISTRY,  
in Czech.)

KOSTIAN, J. (Praha-Letna, Kamenicka l.)

Dental care. Cas. lek. cesk. 97 no.23-24:746-747 6 June 58.

1. Vyzkumny ustav stomatologicky, reditel doc. dr. J. Kostlan.  
(DENTISTRY,  
in Czech. (Cz))

KOSTLAN, Jarmil

SURNAME, Given Names

(1)

Country: Czechoslovakia

Academic Degrees: Docent, MD

Affiliation: Director of the Stomatological Research Institute (Vyzkumny ustav stomatologicky), Prague.

Source: Prague, Prakticke Zubni Lekarstvi, Vol IX, No 5, June 1961,  
pp 149-150.

Data: "World Health Organization and Its Stomatological Program."

36

KOSTLAN, J. MD.

SURNAME, Given Names

Country: Czechoslovakia

Academic Degrees: not given

Affiliation: Stomatology Research Institute, Director-Docent J. Kostlan,  
MD. (Vyzkumny ustav stomatologicky, reditel doc.  
dr. J. Kostlan) Prague.

Source: Prague, Ceskoslovenska Stomatologie, Vol 61, No 5, Sep 1961;  
pp 342-346.

Data: Experimental Dental Caries in Vitro. IV. Comparison between  
the Histological Picture of the Artificial Lesion and the  
Caries of the Enamel.

KOSTLAN, J. MD.  
BURES, H.,

GPO 981643

PLACKOVA,A.; KOSTLAN,J.; STEPANEK,J.

Submicroscopic structure of disturbances in calcification and of incipient caries. Electron microscopic study. Cesk. stomat. 65 no.2:81-84 Mr '64

1. Vyzkumny ustav stomatologicky v Praze (reditel - prof. dr. J.Kostlan); Laborator pro elektronovou mikroskopii a experimentalni morfologii Ceskoslovenskej akademie ved v Praze (vedouci akademik J. Wolf).

KOSTLAN, J.

On the incidence of periodontopathy. Cesk. stomat. 65 no.2:  
141-149 Mr '65

1. Vyzkumny ustav stomatologicky v Praze (reditel: prof.  
J. Kostlan).



PALAMAR'-MORDVINTSEVA, G.M. [Palamar-Mordvintseva, H.M.]; KOSTLAN, N.V.

Effect of various sources of nitrogen on the development and  
protein formation in *Ankistrodesmus braunii* Brunnth. Ukr.  
bot. zhur. 22 no.4:91-96 '65. (MIRA 18:10)

1. Institut botaniki AN UkrSSR, otdel nizkikh rasteniy.

PARSHIKOV, V.N. [Parahykov, V.M.]; KOSTLAN, N.V.

Problems of biochemistry at the conference on the theoretical  
basis of the regulation of mineral nutrition. Ukr. bot. zhur.  
22 no.4:115-116 '65. (MIRA 18:10)

KOSTLAN, N. V.,

"Nitrogen metabolism of Protococcales algae with various ratios of nitrogen and phosphorus in the medium."

report submitted for 10th Intl Botanical Cong, Edinburgh, 3-12 Aug 64.

AS UkSSR.

KOSTLAN, N. V.

KOSTLAN, N. V. — "The Effect of Growing Conditions on the Anatomic-Morphological and Biochemical Features of Foxtail Millet." Acad Sci Ukrainian SSR. Inst of Botany. Kiev, 1955. (Dissertation for the Degree of Candidate in Biological Sciences)

SO: Knizhnaya Letopis', No 1, 1956, pp 102-122, 124

USSR/Cultivated Plants - General Problems.

M

Abs Jour : Ref Zhur Biol., No 18, 1958, 82243

Author : Fedorova, N.A., Gurileva, M.A., Kostlan, N.V.

Inst : -

Title : Methods of Determining the Viability of Winter Crops

Orig Pub : Byul. pofiziol. rasteniy, 1957, No 1, 29-33

Abstract : Direct growth is considered the primary method. However, the water method (M. Bugayevskiy), the sugar growth method (Kuperman and Kucheryavaya) and others belong to those techniques which speed up the process and are less laborious and still have not been widely utilized. At the Chair of Darwinism in Moscow University one has worked out a determination method on the basis of the condition of the apical cones (their turgescence, degree of browning and turbidity). Upon checking 316 specimens of those plants which proved to lack viability in the instance of direct growth, no

Card 1/2

USSR/Cultivated Plants - General Problems

M

Abs Jour : Ref Zhur Biol., No 18, 1958, 82243

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loss of turgor or occurrence of brown vegetative cones were observed. The Institute of Plant Physiology suggested that one use staining for the cones and shoot base sections, with a 0.1% sol. of acidic fuchsin. Non-viable cells are distinguished by their ability to be stained; in cases where only the shoot base cells stained, the plants belonged to the weakened group. Work has been started on applying the luminescent analysis method (by means of an L1-1 apparatus) and radio isotopes (on the basis of the speed and rate of P32 uptake by the plants).

The Bibliography lists 8 titles. -- B.Te. Kravtsova

Card 2/2

*Kostlan, N.V.*  
GOLUB, A.M. (Sumy); KOSTLAN, N.V. (Sumy).

Algebra textbook for the grade 11 of Czechoslovakian secondary schools. Mat.v shkole no.6:77-79 N-D '57. (MIRA 10:11)  
(Czechoslovakia--Algebra--Textbooks)

*Handwritten:* KOSTIAN, M.V.  
GOLUB, A.M.; KOSTIAN, M.V. (Sury).

Geometry textbook for grade 11 of Czechoslovakian secondary schools.  
Mat. v shkole no.2:66-71 Mr-Apr '58. (MIRA 11:2)  
(Czechoslovakia--Geometry--Textbooks)

GOLUB, A.M.; KOSTIAN, N.V.

Trigonometry textbook for grades 10 and 11 of Czechoslovakian  
secondary schools. Mat. v shcole no.6:83-87 N-D '58.

(MIRA 11:12)

(Czechoslovakia--Trigonometry--Textbooks)



FEDOROVA, N.A., kand.sel'skokhoz.nauk; KOSTLAN, N.V., kand.biolog.nauk

Frost resistance and carbohydrate metabolism in winter rye and  
winter wheat. Nauch.trudy UASHN 9:110-120 (MIRA 14:3)  
(Rye) (Wheat) (Plants—Frost resistance)

PALAMAR'-MORDVINTSEVA, G.M.; [Palamar-Mordvyntseva, H.M.]; KOSTLAN, N.V.

Phenomena accompanying a chlorella culture when grown on  
urea. Ukr. bot. zhur. 21 no.3:36-42'64 (MIRA 17:7)

1. Institut botaniki AN Ukr SSR, otdel nizshikh rasteniy.

KOSTLIVY, V.

Vivid interest of North Bohemian lignite basin workers in  
automatic computers. Uhlí 6 no.5:176 My '64

KOSTNAPFEL, J.; BORSTNAR, M.

Our views on electronarcosis. Neuropsihijatrija 8 no.4:285-289 '60.

1. Bolnisnica za dusevne in zivcne bolezni Ljubljana - Polje in Psihla-  
tricna klinika FMS v Ljubljani (Predstojnik: Prof: dr. Janez Kanoni).

(ELECTRONARCOSIS)

KOSTNAPFEL, Janko

SURNAME (in caps); Given Names

Country: Yugoslavia

Academic Degrees: [not given]

Affiliation: [not given]

Source: Ljubljana, Zdravstveni vestnik, No 3-4, 1961, pp 86-89.

Data: "Psychiatric Problems in Geriatrics."

KOSTNAPFEL, JANKO

APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R000825220012-

SURNAME (in caps); Given Names

Country: Yugoslavia

Academic Degrees: [not given]

Affiliation: Psychiatric Clinic of the Medical Faculty (Psihiatrična  
Klinika Medicinske Fakultete), Ljubljana; Director (Predstojnik)  
Prof Dr Janez Kanoni

Source: Ljubljana, Zdravstveni Vestnik, Vol XXX, No 1-2, 1961, pp 22-23

Data: "Electric Sleep."

Authors:

KOSTNAPFEL, Janko  
BORSTNAR, Marijan

KOSTNAPFEL, Janko

Mental hygiene services in tuberculosis hospitals. Tuberkuloza  
16 no.5:454-456 S-D '64

1. Bolnisnica za duzevne bolezni, Polje (Predstojnik: prof. dr.  
J. Kanoni).

VARTANYAN, S.A.; TOSUNYAN, A.O.; KOSTOCHKA, L.M.

Chemistry of vinylacetylene. Part 59: Addition of chloromethyl ether to  $\Delta^1$ -cyclohexenylacetylene and some transformations of chlorides obtained. Izv. AN Arm. SSR. Khim. nauki 18 no.3:274-277 '65. (MIRA 18:11)

1. Institut organicheskoy khimii AN ArmSSR. Submitted May 14, 1964.

*KOSTOCHKIN, O.I.*

S/089/61/011/006/008/014  
B102/B138

21.1000  
AUTHORS:

Shpakov, V. I., Petrzhak, K. A., Bak, M. A., Kovalenko, S. S.,  
Kostochkin, O. I.

TITLE:

Delayed-neutron yields in  $\text{Pu}^{239}$  and  $\text{Th}^{232}$  fissions induced  
by 14.5-Mev neutrons

PERIODICAL: Atomnaya energiya, v. 11, no. 6, 1961, 539 - 540

TEXT: From theoretical considerations and analyses of experimental data  
a slight decrease in delayed-neutron yields is expected with increasing  
excitation energy. So far it has only been measured for 14.5 Mev

thermal fission neutrons from  $\text{U}^{235}$ . The authors measured the delayed-  
neutron yield of 14.5-Mev neutron-induced  $\text{Pu}^{239}$  fission and, for compari-

son, that of  $\text{Th}^{232}$  fission. It was determined as the ratio between number  
of fission events and the number of delayed neutrons produced per second  
in the sample of fissile matter. The Pu or Th sample was cadmium coated  
and bombarded with 14.5-Mev neutrons from  $\text{T(d,n)He}^4$  reactions, with a  
target just behind it being irradiated simultaneously. The steel backing  
of the target was one electrode of the ionization chamber. To measure  
Card 1/3



21105  
S/089/61/011/006/008/014  
B102/B130

Delayed-neutron yields in...

the number of delayed neutrons emitted, about 0.2 sec; after irradiation had ceased the sample was dipped into a neutron detector 1.5 m from the neutron source. The detector consisted of 17 boren counters of the CHM-5A (SNM-5A) type contained in a paraffin block. The end of neutron bombardment which coincided with removal of the sample was established cinematographically with an accuracy of 0.02 sec. As neutron counting started 0.2 sec after the end of bombardment, this caused a loss in neutrons with a delay of 0.16 sec. Special measurements were made to determine this error, which was not above the experimental level. The total number of delayed neutrons could thus be determined by extrapolating the neutron number - versus - time curve to the instant when bombardment ceased. The following results were found: total delayed-neutron yield per decay event:  $0.0130 \pm 0.0015$  for  $\text{Pu}^{239}$ , and  $0.075 \pm 0.007$  for  $\text{Th}^{232}$ . The  $\text{Pu}^{239}$  yield is twice as high as when fission is induced by thermal or fission neutrons. This result is explained by assuming that neutron emission probability increases with increasing excitation energy. There are 1 figure and 4 references: 3 Soviet and 1 non-Soviet. The two references to English-language publications read as follows: G. Keepin et al., Phys. Rev. 107, 1044 (1957); J. Nucl. Energy, 6, - (1957); K. Sun et al., Phys. Rev. 72, 3, 1950.

Card 2/3

Delayed-neutron yields in...

SUBMITTED: July 18, 1961

21405  
S/009/61/011/006/008/014  
B102/B138

Card 3/3

X

34348

S/197/62/000/001/001/002  
B117/B104

24.6500

AUTHORS:

Graudynya, L., Kostochkin, O., Petrzhak, K., Sorokina, A.

TITLE:

 $\gamma$ -rays in inelastic scattering of 2.95-Mev neutrons from  $Al^{27}$ 

PERIODICAL:

Akademiya nauk Latvyskoy SSR. Izvestiya, no. 1 (174),  
1962, 51-52

TEXT: The authors studied  $\gamma$ -transitions of  $Al^{27}$  with the aid of the spectra of the  $\gamma$ -rays forming in inelastic scattering of 2.95-Mev neutrons. The studies were made with a scintillation spectrometer, the experimental conditions were the same as in Ref. 1 (V. M. Adamov, L. Ya. Graudynya, K. A. Petrzhak, A. V. Sorokina, Izv. AN Latv. SSR, no. 5, 1961). The weight of the circular  $Al$ -scatterer was 333 g. The neutrons scattered by the  $Al$ -scatterer into the crystal interact with the  $NaI(Tl)$  crystal and bring about a  $\gamma$ -background. The background  $\gamma$ -ray spectrum was measured with an organic-glass scatterer. The number of scattering atoms was the same in aluminum and organic glass. Besides the already known  $\gamma$ -lines with 0.84, 1.02, and 2.25 Mev an additional line with 2.82 Mev was

Card 1/2

APPROVED FOR RELEASE: 06/14/2000

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S/197/62/000/001/001/002  
B117/B104 $\gamma$ -rays in inelastic scattering ...

detected. Two more lines with the energies of 1.23 and 1.76 Mev were observed which are assigned to  $Al^{27}$  by some scientists and which are associated with the 2.75-Mev level which has hitherto not been observed in the inelastic scattering of neutrons from aluminum. These two lines are assumed to have formed as a result of the pair production caused by 2.25-Mev  $\gamma$ -quanta in the  $NaI(Tl)$  crystal and by the subsequent emergence of one (1.76 Mev) or two (1.23 Mev) annihilation quanta from the crystal. This assumption is confirmed by the dependence of the intensity ratio of the 1.25-, 1.76-, and 1.23-Mev lines on the crystal dimensions. A check experiment with an aluminum scatterer placed at an angle of  $90^\circ$  to the deuteron beam showed that the two lines (1.23 and 1.76 Mev) were present although the neutron energy was not sufficient to excite levels higher than 2.25 Mev in  $Al^{27}$ . Hence the  $Al^{27}$  spectrum has the following  $\gamma$ -transitions: 0.83, 1.02, 2.25, and 2.82 Mev. There are 1 figure and 10 references: 3 Soviet and 7 non-Soviet.

SUBMITTED: July 14, 1961

Card 2/2

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S/056/62/042/002/006/055  
B102/B138

24.6400  
AUTHORS:

Graudynya, L. Ya., Kostochkin, O. I., Petrzhak, K. A.,  
Sorokina, A. V.

TITLE:

Gamma rays produced in inelastic scattering of 2.95-Mev  
neutrons on Ta<sup>181</sup> nuclei

PERIODICAL:

Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42,  
no. 2, 1962, 349 - 352

TEXT: With the experimental arrangement shown in Fig. 1 the excitation spectrum was measured with a scintillation gamma spectrometer in annular geometry. Its resolution for the 0.66-Mev gamma lines of Cs<sup>137</sup> was 10%. The soft spectrum up to 1 Mev was measured using a 286 g metallic Ta ring as scatterer; for the hard spectrum an annular container of organic glass was used, filled with 818 g Ta powder. The measurements were made in the range 0.35-3 Mev. The following gamma peaks were observed: 0.35, 0.42, 0.57, 0.62, 0.76, 0.86, 1.24, 1.47, 1.90 and 2.11 Mev. The peaks at 1.24 and 1.60 Mev are attributed to pair production in the NaI(Tl) crystal by 1.90 and 2.11-Mev gamma quanta. There was no 0.958-Mev level, but all

Cont 1/2

S/056/62/042/002/006/055  
B102/B138

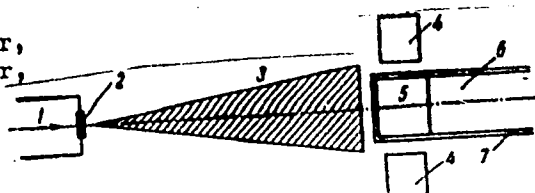
Gamma rays produced in inelastic...

the gamma transitions observed can be obtained without introducing this level. There are 2 figures, 1 table, and 8 references: 2 Soviet and 6 non-Soviet. The four most recent references to English-language publications read as follows: A. H. Muir, F. Boehm. Phys. Rev. 122, 1564, 1961; F. Boehm, P. Marmier. Phys. Rev., 103, 342, 1956; R. Day. Phys. Rev. 102, 767, 1956; B. Guernsey, A. Wattenberg. Phys. Rev. 101, 1516, 1956.

ASSOCIATION: Radiyevyy institut Akademii nauk SSSR (Radium Institute of the Academy of Sciences USSR)

SUBMITTED: July 17, 1961

Legend to Fig. 1: (1) Deuteron beam;  
(2) deuterium target, (3) lead  
shielding cone, (4) annular Ta scatterer,  
(5) NaI(Tl) crystal, (6) photomultiplier,  
(7) screen of black paper.



Card 2/2

KOSTOCHKIN, O.I.; PETRZHAK, K.A.; SOKOLOV, A.M.; SHPAKOV, V.I.

A 4- $\pi$  counter for measuring the radioactivity of gaseous  
products. Prib. i tekhn. eksp. 9 no.3:52-55 My-Je '64  
(MIRA 18:1)

ARON, P.M.; KOSTOCHKIN, O.I.; PETRZHAK, K.A.; SHPAKOV, V.I.

Probability of delayed neutron emission from halogens. Atom.  
energ. 16 no. 4:368-370 Ap '64. (MIRA 17:5)

SHPAKOV, V.I.; KOSTOCHKIN, O.I.; PETRZHAK, K.A.; ARON, P.M.

Yields of  $^{87}\text{Br}$ ,  $^{88}\text{Br}$ ,  $^{89}\text{Br}$ ,  $^{137}\text{I}$ ,  $^{138}\text{I}$  precursors of delayed  
neutrons in the fission of  $^{238}\text{U}$  and  $^{232}\text{Th}$  with an energy of  
14.5 Mev. Radiokhimiia 7 no.1:96-103 '65. (MIRA 18:6)



KOSTOCHKIN, V. N.

PA 23T52

USSR/Engineering  
Ventilators  
Ventilating Systems

Jul 1947

"Increasing the Efficiency of Ventilators," V. N.  
Kostochkin, 2 pp

"Promyshlennaya Energetika" Vol IV, No 6

The author was able to alter the cowling of ventilators so that they increased their efficiency coefficient. The usual efficiency of ventilators is about 0.5. The author claims that in his experiments he was able to increase it to as high as 0.73 with an electric power saving of 93,000 kilowatt hours per year.

23T52

KOSTOCHKIN, V.N.

DOC TECH SCI

Dissertation: "Investigation of the Performance of Jackets in Pumps and Ventilators."  
10 February 49  
Moscow Inst of Chemical Machine Building.

SO Vecheryaya Moskva  
Sum 71

---

KOSTOCHKIN, Vladimir Nikolaevich

Kostochkin, Vladimir Nikolaevich Air blowing equipment in central  
electric power plants; ventilators Moskva, Gos. energ. izd-vo, 1950.

302 p. (50-38811) TJ960.K6

KOSTOCHKIN, V.N., doktor tekhnicheskikh nauk.

Reducing the consumption of power in electric power  
stations. Elek.sta. 27 no.7:12-14 J1 '56.

(MLRA 9:10)

(Electric power plants)

STARK, Sergey Borisovich; KANTOROVICH, B.V., prof., doktor tekhn. nauk, retsenzent; KOSTOCHKIN, V.N., prof., doktor tekhn. nauk, retsenzent; LELYAVIN, N.Ya., dotsent, kand. tekhn. nauk, retsenzent; ARUSTAMOVA, TS.T., dots., kand. tekhn. nauk, retsenzent; KISELEV, V.I., dots., kand. tekhn. nauk, retsenzent; SUSHKIN, I.N., inzh., retsenzent; BRINZA, V.N., red.; ISLENT'YEVA, P.G., tekhn. red.

[Fundamentals of hydraulics, pumps and air-blowing machines; collection of problems] Osnovy gidravliki, nasosy i vozdukhoduvnyye mashiny; sbornik zadach. Izd.2., perer. i dop. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1961. 458 p.

(MIRA 14:9)

(Hydraulics) (Pumping machinery) (Blowers)

KOSTOCHKIN, V. V.

Gidravlika sistem vodianogo okhlazhdeniia aviatsionnykh motorov. Moskva, 1939. 64 p., illus., diagrs. (TSAGI. Trudy, no.434)

Bibliography: p.62.

Title tr.: Hydraulics in the water cooling systems of aircraft engines.

QA911.M65 no.434

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

KOSTOCHKIN, V. V.

Materialy k raschetu i proektirovaniu sistem vodianogo okhlazhdeniia  
aviatsionnykh motorov. Moskva, 1940. 55p., illus. (TSAGI. Trudy, no. 514)

Title tr.: Data for the design of cooling systems of water-cooled aircraft engines.

NCF

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of  
Congress, 1955.

KOSTOCHKIN, V. V.

Sistemy zapolneniia benzobakov vykhlopnyimi gazami. (Tekhnika  
vozdušnogo flota, 1943, no. 10-11, p. 21-26, illus., diagrs.)  
Title tr.: Fuel tank protection by inert gases.

TL50h.T4 1943

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of  
Congress, 1955.



KOSTOCHKIN, V. V.

Drenazhnye klapany sistem vodianogo okhlazhdeniia aviamotorov. Moskva, Oborongiz, 1947.

Title tr.: Bleeder valve in aircraft engine water cooling systems.

NCF

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

KOSTOCHKIN, Ye.; DETINOV, P.

Panel construction for pallet transport of bricks. Avt.transp.34  
no.2:13 P '56. (MLRA 9:7)

1. Tsentral'nyye avtoremontnyye masterskiye Glavmosavtotransa.  
(Bricks--Transportation)

25(6)

AUTHORS: Odina, I. A., Kostochkin, Yu. V.

SOV/32-25-7-29/50

TITLE: Testing of Turbine Vanes in the Gas Current at Varying Temperatures (Ispytaniye turbinnykh lopatok v gazovom potoke peremennoy temperatury)

PERIODICAL: Zavodskaya laboratoriya, 1959, Vol 25, Nr 7, pp 863-865 (USSR)

ABSTRACT: A special method and arrangement UPT for testing turbine vanes and samples at varying temperatures of the gas current were worked out. The device (Fig 1) is, in principle, a gas turbine where hot gas enters on the one hand and air on the other. Four samples can be tested at the same time; hot gas and air flow around them alternately. The automatic shift from gas to air current is carried out by a servomotor PR-1. Turbine vanes (Fig 3) were tested on a nickel basis EI 765 while the temperature was reduced from 750 to 700° and again increased to 750°. The temperature of the sample was measured by thermocouples. In the course of the test the samples were extended by rotation; the rotor showed a rate of 7500 rpm, and a tensile stress of 28 kg/mm<sup>2</sup> was obtained. The testing results obtained (Table) show that the samples showed no surface cracks at 5500 rpm

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Testing of Turbine Vanes in the Gas Current at Varying Temperatures SOV/32-25-7-29/50

temperature variation periods; durability, however, decreases.  
There are 4 figures and 1 table.

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i  
mashinostroyeniya (Central Scientific Research Institute of  
Technology and Machine Construction)

Card 2/2

KOSTOCHKIN, Yu. V. Cand Tech Sci, -- "Study of the effect of alternating temperature upon the strength of ~~the~~ <sup>in the</sup> metal vanes of gas turbines." Mos, 1940 (All-Union Main Power Administration. All-Union Order of Labor Red Banner Heat Engineering Sci Res Inst im F. E. Dzerzhinskiy). (KL, 1-61,193)

66690

S/180/60/000/01/014/027

E193/E135

18.9550  
18.8200

AUTHORS: Kostochkin, Yu.V., and Oding, I.A. (Moscow)

TITLE: Failure of Metals due to Thermal Fatigue

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Metallurgiya i toplivo, 1960, Nr 1, pp 101-104 (USSR)

ABSTRACT: If a metal part of a rest piece is subjected to cyclic temperature variations, its mechanical strength diminishes owing to the formation of a network of surface cracks. The laboratory investigations of thermal fatigue are, in most cases (Refs 1-3) conducted under rather severe conditions. The test pieces are heated in a furnace or by an electric current and cooled by a stream of cold air or by quenching in water, while the number of reversals often exceeds that likely to occur under actual service conditions; as a result, easily discernible surface cracks are formed which considerably reduce the strength and plasticity of the test pieces. The temperature variations under the actual service conditions are less drastic, so that in many cases only micro-cracks are formed, which are not easy to detect; more often, the only result of the cyclic temperature variations is

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E193/E135

# Failure of Metals due to Thermal Fatigue

broadening of the grain boundaries which can be considered as the first stage of the formation of cracks. Even in these cases, it is still necessary to evaluate the extent of the damage so as to be able to assess the suitability (or otherwise) of the part for further service. The object of the present investigation was to find a convenient method of checking the effect of thermal fatigue on the resistance of metals to deformation; the EI-765 nickel/chromium alloy and the EI-612 austenitic steel were selected as the experimental materials, both these alloys being used in the manufacture of gas turbine blades. Standard, cylindrical, tensile test pieces and impact strength test bars were used in the first series of experiments, which consisted in heating the specimens in a stream of gas at 750 °C and cooling them by a stream of air at 70 °C which corresponded very closely to the thermal conditions under which the turbine blades operate in service. A maximum of 6000 reversals was applied and even then no cracks could be detected in the investigated specimens. The test pieces, subjected to

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## Failure of Metals due to Thermal Fatigue

various numbers of reversals, were tested for tensile and impact strength; the results of these tests are given in Tables 1-4. The results of short-time, tensile tests for the EI-765 alloy are given in Table 1 under the following headings: number of the specimen; number of the 750-70-750 °C cycles; tensile test temperature, °C; 0.2% proof stress,  $\sigma_{0.2}$ , kg/mm<sup>2</sup>; U.T.S.,  $\sigma_B$ , kg/mm<sup>2</sup>; elongation,  $\delta$ , %; reduction of area,  $\psi$ , %. The results of the impact strength tests for the same alloy are given in Table 2, showing: number of the specimen; number of 750-70-750 °C cycles; impact testing temperature, °C; impact strength,  $a_k$ , kgm/cm<sup>2</sup>. The results of the short-time tensile tests and impact strength tests for steel EI-612 are presented in the same manner in Tables 3 and 4, respectively. Analysis of these tables showed that, taking into account the scatter of the results (characteristic for thermal fatigue tests), the mechanical properties of the specimen were hardly affected by the variation of the number of temperature reversals, thus indicating that the extent of the damage due to thermal

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## Failure of Metals due to Thermal Fatigue

fatigue cannot be assessed by the method employed. Consequently, actual turbine blades were used in the next series of experiments; these were also alternately heated and cooled in a stream of hot gas and cold air, after which they were subjected to creep tests in a manner described by the present author in Ref 5. The results of the time-to-rupture tests are given in Fig 1, where time-to-rupture ( $\tau$ , h) for alloy EI-765, tested at 750 °C (continuous curves), and steel EI-612, tested at 650 °C (broken curves) is plotted against the number,  $n$ , of temperature reversals; the stress,  $\sigma$ , (kg/mm<sup>2</sup>) applied during the creep test being given by each curve. It will be seen that with increasing  $n$  the creep resistance of the alloys (as indicated by the time-to-rupture) decreased, the rate of this decrease slowing down with both increasing  $n$  and increasing magnitude of the applied stress,  $\sigma$ . Macro- and micro-analysis of the fracture revealed that the failure had occurred not instantaneously, but progressively. A surface crack was first formed which then propagated along the grain

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Failure of Metals due to Thermal Fatigue

boundaries in the direction perpendicular to the axis of the blade (and to the applied stress), until the load bearing cross section was reduced to about 50% of the original area, at which moment the specimen broke, the fracture taking place by intra-crystalline shear along a plane inclined at  $45^\circ$  to the horizontal. (In the case of blades that had not been subjected to preliminary, cyclic temperature variations, fracture under these conditions occurred instantaneously and was of the inter-crystalline nature). The creep curves (elongation  $\epsilon$ , %, versus time  $\tau$ , h) obtained in the course of the next series of experiments are given in Figs 2 and 3. Fig 2 shows the results for the EI-765 alloy, tested at  $750^\circ\text{C}$  under  $\sigma = 22.3 \text{ kg/mm}^2$ , the other conditions (for curves 1-5) being: 1 - blade E16;  $\tau$  (time-to-rupture) = 276 h;  $\epsilon$  (at the moment of fracture) = 6.45%; number of preliminary temperature reversals,  $n = 6200$ ; 2 - blade E17;  $\tau = 306 \text{ h}$ ;  $\epsilon = 4.55\%$ ;  $n = 5817$ ; 3 - blade E2;  $\tau = 605 \text{ h}$ ;  $\epsilon = 4.2\%$ ;  $n = 3580$ ; 4 - blade E1;  $\tau = 912 \text{ h}$ ;  $\epsilon = 3.95\%$ ;  $n = 2315$ ; 5 - blade E21;  $\tau = 1520 \text{ h}$ ; ✓

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E193/E135

# Failure of Metals due to Thermal Fatigue

$\epsilon = 3\%$ ;  $n = 0$ . The results of creep tests for steel EI-612, tested at 650 °C under  $\sigma = 22.3 \text{ kg/mm}^2$ , are presented in the same manner in Fig 3, curves 1-5 corresponding to: 1 - blade I5;  $\tau = 203 \text{ h}$ ;  $\epsilon = 2.5\%$ ;  $n = 6200$ ; 2 - blade I1;  $\tau = 209 \text{ h}$ ;  $\epsilon = 1.94\%$ ;  $n = 5722$ ; 3 - blade I14;  $\tau = 856 \text{ h}$ ;  $\epsilon = 1.44\%$ ;  $n = 1420$ ; 4 - blade I15;  $\tau = 942 \text{ h}$ ;  $\epsilon = 1.47\%$ ;  $n = 710$ ; 5 - blade I17;  $\tau = 1091 \text{ h}$ ;  $\epsilon = 1.4\%$ ;  $n = 0$ . The creep curves, reproduced in Figs 2 and 3, show that the larger the number of temperature reversals, the faster was the rate of deformation in creep and the higher the total elongation of the specimen. This was obviously due to the fact that fracture of blades, subjected to preliminary cyclic temperature reversals, took place across a smaller (on the account of cracks) effective cross-section area and, therefore, under a higher effective stress. It was concluded that the harmful effect of thermal fatigue is best assessed by conducting creep tests on specimens subjected to cyclic temperature variations, closely resembling those that occur under the actual operating conditions.

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E193/E135

Failure of Metals due to Thermal Fatigue

There are 3 figures, 4 tables and 5 Soviet references.

SUBMITTED: October 6, 1959

Card 7/7

KOSTOCHKIN, Yu.V.

RESEARCH REPORT ON THE RESULTS OF THE WORK OF THE  
COMMISSION FOR THE STUDY OF THE PROBLEMS OF THE  
FUTURE OF THE HUMANITY

Soveshchaniye po ustaloosti metallov. 1971, 12 stran, 1 ksh.  
Talklichebnye prezhnosti metallov: ustaloost' i korrupciya  
po ustaloosti metallov. 21 - 22. 1971, 12 stran, 1 ksh.  
Strength; Problems of the future of the humanity.  
Metals, held Nov 21 - 22, 1971, 12 stran, 1 ksh.  
333 p. Bereta city included.

Resp. Ed.: I. A. Odlov. Chief of the Commission for the Study of the  
Sciences of the USSR; Ed. of the USSR Academy of Sciences.  
Tech. Ed.: A. P. Gerasimov.

PURPOSE: This collection of articles is intended for the use of  
research workers and students.

COVERAGE: The collection contains articles on the problems of the  
at the second conference on the problems of the future of the  
at the Institute of the USSR Academy of Sciences.  
with the nature of the future of the humanity.

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45

Cyclic Metal Strength (Cont.)

SOV/6025

and growth of fatigue cracks, the role of plastic deformation in fatigue fracture, an accelerated method of determining fatigue strength, the plotting of fatigue diagrams, and various fatigue test methods. New data are presented on the sensitivity of high-strength steel to stress concentration, the effect of stress concentration on the criterion of fatigue failure, the effect of the size factor on the strength of metal under cyclic loads, and results of endurance tests of various machine parts. Problems connected with cyclic metal toughness, internal friction, and the effect of corrosion media and temperature on the fatigue strength of metals are also discussed. No personalities are mentioned. Each article is accompanied by references, mostly Soviet.

TABLE OF CONTENTS:

NATURE OF FATIGUE FRACTURE

Oding, I. A. Diffusionless Mechanism of Formation and Growth of a Fatigue Crack  
Card 2/8

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2

Cyclic Metal Strength (Cont.)

SOV/6025

Gladysrevskaya, S. A., L. V. Ignatyuk, and V. A. Svetlitskiy. Unit for the Study of Corrosion Fatigue of Metals

250

Aleksandrov, B. I. Effect of Temperature and Steel History on the Endurance Limit of Oxidation-Resistant and Heat-Resistant Steels and Alloys

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Oding, I. A., and Yu. V. Kostochkin. Effect of Temperature Variations on the Strength of the Metal of Gas-Turbine Blades

267

Rakhman, B. M. Procedure of Thermal Fatigue Test Under Given Stresses

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FATIGUE STRENGTH OF MACHINE PARTS

Aleksandrov, B. I. and I. B. Klibanskiy. Study of the Endurance of Tractor-Engine Connecting Rods

284

Card 8/9

S/129/62/000/007/005/008  
E073/E435

AUTHOR: Kostochkin, Yu.V., Candidate of Technical Sciences

TITLE: Influence of thermal fatigue on the failing of turbine blades

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, no.7, 1962, 45-48

TEXT: Using a special test rig, standard cylindrical specimens, impact strength test specimens and models of turbine blades made of the austenitic steel XH35BT (KhN35VT) and of the Cr-Ni alloy XH70BMQT (KhN70VMYuT) were heated in a gas stream of 750°C, 180 m/sec velocity (heat transfer coefficient 600 kcal/m<sup>2</sup>.hr.deg) and cooled with 70°C air. The test conditions were as near as possible to real conditions of operation of turbine blades. The specimens and the turbine blade models were tested for up to 6000 thermal cycles, and subsequent macro- and micro-analyses did not reveal any cracks. The mechanical properties of the materials at room and elevated temperatures also remained unchanged after this thermal cycling; only the ductility changed somewhat. After differing numbers of thermal cycles the turbine blades were Card 1/2 2



Influence of thermal fatigue on ... S/129/62/000/007/005/008  
E073/E435

tested for creep strength until failure, at 750°C (KhN70VMYuT) and 650°C (KhN35VT), in an experimental gas turbine as well as in a test rig. The results are plotted in Fig.1, which shows that each number of thermal cycles corresponds to a definite time to failure. Macro- and microstructural analyses of the fractures revealed that, with and without thermal cycling, the failure occurred along the plane of maximum tangential stresses, along the body of the grain. The results of short-duration tensile tests are not affected by the thermal cycling. The lowering of the creep strength is attributed to the fact that the intergranular microcracks accumulate and develop into cracks along the grain boundaries, reducing the effective cross-section of the blade; however, those mechanical properties which are determined by intracrystalline fracture are not affected. There are 2 figures.

ASSOCIATION: TsNIITMASH

Card 2/2

KOSTOCHKIN, Yu.V., kand.tekhn.nauk

Effect of thermal fatigue on the failure of turbine blades.  
Metalloved. i term. obr. met. no.7:45-48 J1 '62. (MIRA 15:6)

1. Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii  
i mashinostroyeniya.  
(Thermal stresses) (Turbines--Blades)

S/137/000/062/011/027/045  
A006/A101

26.2.22

AUTHORS: Oding, I. A., Kostochkin, Yu. V.

TITLE: The effect of temperature changes upon the metal strength of gas turbine blades

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 11, 1962, 50, abstract 111316 (In collection: "Tsiklich. prochnost' metallov", Moscow, AN SSSR, 1962, 267 - 275)

TEXT: The authors investigated the effect of variable temperatures upon crack formation and changes in the size of 3H 765 (EI765) and 3H 607 (EI607) alloy, and 3H 612 (EI612) steel specimens, used for gas turbine blades. Prismatic specimens of 23 x 16 mm section, were heated in a furnace to temperatures below phase transformation (EI675 and EI607 to 800°C, EI612 to 700°C). They were then cooled in an oil bath at 40°C. The crack resistance of the materials was evaluated from the number of thermal cycles until the appearance of the first cracks. It was found that after a sufficient number of cycles thermal fatigue cracks in the aforementioned materials developed on the plane faces of the specimen; this is connected with the nature of temperature and stress distribution

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The effect of temperature changes upon...

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in the specimen. For heat-resistant materials with low heat-conductivity and maximum temperature gradient, highest stresses arose on the face surface and attained  $18 \text{ kg/mm}^2$  4 sec after the beginning of cooling. The determination of mechanical properties was performed on a IM -4 P (IM-4R) machine and on a ram at 20 and  $650^\circ\text{C}$ . Highest mechanical properties are shown by steel EI765; it proved therefore most resistant with regard to heat-alternation. Hardness of steels EI607 and EI612 decreased after 170 - 190 cycles by a factor of almost 1.5, whereas hardness of EI765 steel did not change after 552 cycles. It is shown that the difference in the appearance of cracks in carbon steel and heat resistant steels is connected with the nature of ductility changes depending on temperature. It is pointed out that the damage degree of the metal of gas turbine blades subjected to the effect of thermal fatigue, should be evaluated from long-lasting endurance tests. It was established that the nature of failures in long-lasting durability tests of the blades subjected to the effect of heat alternations, is of an intergranular nature. ✓B

Z. Fridman

[Abstracter's note: Complete translation]

Card 2/2

S/124/63/000/001/075/080  
D234/D308

AUTHORS: Oding, I.A. and Kostochkin, Yu.V.

TITLE: Effect of variable temperature on the strength of the metal of gas turbine blades

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 1, 1963, 77, abstract 1V599 (In collection: Tsiklich. prochnost' metallov. M., AN SSSR, 1962, 257-275)

TEXT: The authors study the effect of thermal fatigue on the character of crack formation in prismatic specimens of alloys ЭИ-765 (EI-765) EI-607 and of EI-612 steel, as well as on the durable strength characteristics.  
[Abstracter's note: Complete translation]

Card 1/1

S/285/63/000/001/002/002  
A052/A126

AUTHORS: Oding, I. A., Kostochkin, Yu. V.

TITLE: Effect of variable temperature on the strength of gas turbine blade metal

PERIODICAL: Referativnyy zhurnal, otdel'nyy vypusk, 49. Turbostroyeniye, no. 1, 1963, 19, abstract 1.49.115 (In collection: Tsiklich. prochnost' metallov. M., AN SSSR, 1962, 267 - 275)

TEXT: The effect of a variable temperature on the character of crack formation, change of dimensions and mechanical properties of materials is investigated. The following materials were tested: 3H-765 (EI-765) (chromium-nickel alloy), 3H-612 (EI-612) (austenitic steel) and 3H-607 (EI-607) (nickelbase alloy). Prismatic 23 x 16 mm samples were heated to temperatures below those of phase conversions (700 - 800°C) and cooled in an oil bath at 40°C. The tests have shown that after a sufficient number of heat changes thermal fatigue cracks appear in tested materials on flat sides of prismatic samples and not on edges as is the case in carbon steel samples. A detailed analysis of this phenomenon is made with an

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A052/A126

Effect of variable temperature on...

allowance for different mechanical properties, heat conductivity coefficients and Bio criteria under different test conditions. The conclusion is drawn that the difference in the process of crack formation in carbon and heat-resisting steels is connected with temperature fields in the samples and the character of ductility change depending on the temperature. Cracks appear on the grain boundaries, and their appearance is preceded by an expansion of boundaries which increases with the growing number of heat changes. The investigation of the process of increase of sample dimensions was carried out on EI-612 steel heated to 800°C. After 100 cycles the length of a sample increases by 2%. The increase of length is conditioned by temperature stresses exceeding the limit of elasticity of the material. A detailed description is given of the process of residual strain expansion and of increase of absolute sample dimensions at a constant level of heat changes. An investigation of metal resistance to thermal fatigue was carried out on an installation simulating near-to-working conditions for gas turbine blade materials. Material samples and blade models were heated to 750°C and cooled in a gas flow. In the process of heating the most abrupt temperature change is 530°C and it takes place during the first seconds. The gas and blade metal temperatures were recorded by an oscillograph according to 8 thermocouples incorporated in the blades. Temperature field measurements of blade models at heating and cooling are given and

Card 2/3.

S/830/62/000/001/005/012  
E193/E383

AUTHORS: Kaplan, G.Ye., Moiseyev, Ye.D., Dmitriyeva, L.P.  
and Kostochkina, S.A.

TITLE: Separation of zirconium and hafnium by [solvent]  
extraction

SOURCE: Ekstraktsiya; teoriya, primeneniye, apparatura. Ed.  
by A. P. Zefirov and M. N. Senyavin. Moscow.  
Gosatomizdat, 1962. 117 - 123

TEXT: The first part of the paper is concerned with the application of tributyl phosphate as a reagent in a solvent-extraction process used for selective recovery of hafnium and zirconium from Zr-rich solutions. Various standard methods of decomposition of zirconia concentrates are reviewed and the most convenient ways of converting the composition products to solutions suitable for processing by solvent extraction are discussed. It is shown that the main difficulties associated with the application of tributyl phosphate for separating Hf and Zr are associated with difficulties encountered in the preparation of nitric-acid solutions free from silicon, fluorine and sulphate

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Separation of ....

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E193/E383

ions. The only original experimental evidence quoted in this connection relates to the effect of fluorine on the extraction of Zr from nitric-acid solutions: it is shown that in the case of solutions obtained from fluorine compounds of Zr and Hf, solvent extraction can be effectively used only if the fluorine/zirconium molar content ratio does not exceed unity. The use of organic agents such as diethyl ester, methyl isobutyl ketone, etc. for separating Hf from Cr in  $H_2SO_4$  solutions is briefly discussed; the main shortcoming of this method is the difficulty in regenerating ammonia thiocyanate. Since liquid ionic-exchange reagents can also be used for extraction from  $H_2SO_4$  solutions and since data on the separation of Hf and Zr by this method are scarce, a series of experiments were conducted in which 5% xylol solutions of several cationic reagents were used to extract Hf and Zr from a 2N  $H_2SO_4$  solution with 20 g/l. Zr. The results are reproduced in Table 1. The disadvantage of this method is a tendency to the formation of emulsions and insoluble residues. The last paragraphs of the paper describe experiments in which the possibility of using amines for extraction of Zr from  $H_2SO_4$

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Separation of ....

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E193/E383

solutions was studied. A xylol solution of tri-octylamine was used for this purpose. Recovery of Zr in the organic phase depended on both acidity of the solution and concentration of the amine in its solvent. When a 20% solution of amine was used in a 2N  $H_2SO_4$  solution, the distribution coefficient in respect of Zr was 1.4, the corresponding figure for an 0.7N solution being 5.5. The distribution coefficients attained with a 10% solution of amine, used for treating 0.7N, 2N and 4N  $H_2SO_4$  solutions were, respectively, 0.67, 0.42 and 0.31. It is concluded that application of amines and phosphoric acid esters offer a possible method of separating Hf and Zr in  $H_2SO_4$  solutions. There are 4 figures and 1 table.

✓

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Separation of ....

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Table 1:

Extraction characteristics of some organic phosphorus-base acids with cation-exchange properties

| Extracting agent                                     | D <sub>Hf</sub> | D <sub>Zr</sub> |
|--|-----------------|-----------------|
| (C <sub>6</sub> H <sub>13</sub> O) <sub>2</sub> POOH | 0.22            | 0.02            |
| (C <sub>7</sub> H <sub>15</sub> O) <sub>2</sub> POOH | 0.35            | 0.03            |
| (C <sub>8</sub> H <sub>17</sub> O) <sub>2</sub> POOH | 0.21            | 0.03            |

Card 4/4

KOSTOCHKINA, T.V., arkhitektor.

Finishing exterior surfaces of cellular concrete products.  
Stroi.prom.35 no.4:38-39 Ap '57. (MLRA 10:3)  
(Building blocks) (Light weight concrete)

KRESTOV, M.A.; DOBRYAKOVA, L.I.; KOSHKIN, V.G.; YEVDOKIMOV, A.A.;  
IVANOVA, V.V.; KHMELEVSKIY, V.A.; KOSTOCHKINA, T.V.; PFLAUMER,  
O.E., kand.tekhn.nauk, nauchnyy red.; SKVORTSOVA, I.P., red.  
izd-va; TEMKINA, Ye.L., tekhn.red.

[Finishing large panels and blocks using colored concretes]  
Otdelka krupnykh panelei i blokov s primeneniem tsvetnykh beto-  
nov. Moskva, Gos.izd-vo lit-ry po stroit., arkhitekt. i stroit.  
materialam, 1959. 87 p. (MIRA 13:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut novykh stroi-  
tel'nykh materialov. 2. Institut novykh stroitel'nykh materialov  
(for Krestov, Dobryakova, Koshkin, Yevdokimov, Ivanova, Khmelevskiy).
3. Institut betona i zhelezobetona (for Kostochkina).  
(Building blocks)

KOSTOCHKINA, T.V., arkhitekt

Factory-finished exterior surfaces of autoclave-hardened  
porous concrete products. Trudy NIIZHB no.8:181-193 '59.  
(MIRA 13:4)

1. Nauchno-issledovatel'skiy institut betona i zhelezobetona  
Akademii stroitel'stva i arkhitektury SSSR.  
(Precast concrete)

MAKARICHEV, V.V., kand.tekhn.nauk; KOSTOCHKINA, T.V., nauchnyy sotrudnik;  
IPTINKA, G.A., red.izd-va; ~~SELESTREVA, N.V.~~, tekhn.red.

[Instructions for finishing the exterior surfaces of porous concrete articles with cement paints] Ukazaniia po otdelke naruzhnykh poverkhnostei izdelii iz ischislstykh betonov tsementnymi kraskami. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam, 1960. 24 p. (MIRA 14:4)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut betona i zhelezobetona, Perovo.  
(Concrete coating)

KOSTOCHKINA, T.V., arkhitektor; ROZENFEL'D, L.M., kand. khimicheskikh  
nauk

Atmospheric resistance of cement coverings on cellular concrete products. Trudy NIIZHB no.32:278-294 '63.  
(MIRA 17:1)



*Kostogarov, A.*

TRANSLATION FROM: Referativnyy zhurnal, Elektrotehnika, 1957, 112-2-4520  
Nr 2, p. 293 (USSR)

AUTHOR: Kostogarov, A.

TITLE: Including a Fuse in the Amplifier Anode Circuit (Vkl'yucheniye predokhranitelya v anodnuyu tsep'usilitelya)

PERIODICAL: Kinomekhanik, 1956, Nr 3, pp. 40-41

ABSTRACT: Twenty per cent of the cases of IIV-156 motion picture sound track amplifier breakdowns are due to breakdown of electrolytic capacitors of the rectifier filter. This puts the kenotron out of order and sometimes the power transformer as well. To prevent breakdown of these elements it is proposed to introduce an MH-15 neon lamp into the amplifier anode circuit as a protection. The voltage drop from the neon lamp (3 to 4 v) has practically no effect on amplifier operation. At the same time, this lamp serves as an indicator of proper rectifier operation.

S.D.D.

Card 1/1

KOSTOGAFOV, M. V.

Rabota gidravlicheskikh pressov s avtomaticheskim reguliatorom davlenia vody v seti. (Vestn. Mash., 1948, no. 9, p. 46-48)

Performance of hydraulic presses with automatic pressure control of water in network.

DLC: TN4.V4

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953

DAVIDENKOV, N.N. [deceased]; SIDOROV B.A.; SHESTOPALOV, L.M.; MIRONOV, N.F.;  
BOGORAD, N.M.; IZHVANOV, L.A.; KOSTOGAROV, S.B.

Mechanical properties of beryllium. Atom. energ. 18 no.6:608-616 Je '65.  
(MIRA 18:7)

2

L 58404-65 EMP(a)/EMP(m)/EMP(w)/EMP(d)/T/EMP(t)/EMP(x)/EMP(z)/EMP(b) Ps-4 IMP(c)  
 ACCESSION NR: AP5016930 JD/JG UR/6039/65/018/006/0608/0616  
 546.45.001.2

AUTHOR: Pavlov, N. N. (Deceased); Sidorov, B. A.; Shestopalov, L. M.;  
 Mironov, N. F.; Bazarov, N. M.; Izhevskiy, L. A.; Kostogarov, S. B.

TITLE: Investigation of the mechanical properties of beryllium

SOURCE: Atomnaya energiya, v. 18, no. 6, 1965, 608-616

TOPIC TAGS: beryllium, sintered beryllium, cast beryllium, extruded beryllium,  
 beryllium mechanical property

ABSTRACT: Beryllium powders, 99.02-99.59% pure with a particle size of -500 or  
 -50  $\mu$ , obtained by reduction of beryllium fluoride with magnesium, vacuum distilla-  
 tion, or electrolysis of beryllium chloride, were consolidated by cold compacting  
 and vacuum sintering, hot compacting in air or in a vacuum, or by melting and cen-  
 trifugal casting. A part of the specimens was additionally extruded at 450-500C  
 with a reduction of 75%. The density of metal varied from 1.75-1.82 g/cm<sup>3</sup> for  
 cold-compacted and sintered specimens to almost the theoretical for hot-compacted  
 or extruded specimens. It was found that at 20C the elongation and reduction of  
 area did not exceed 5%. The ductility of sintered beryllium increased sharply with  
 increasing temperature to a maximum at 400-500C, and then decreased. The strength  
 and ductility of hot-compacted beryllium powders increased with decreasing particle  
 size.

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size. Electrolytic and distilled beryllium is more ductile than that obtained by reduction with magnesium. Beryllium extruded from hot-compacted powders with a grain size of  $-50 \mu$  (the mean grain size  $20-25 \mu$ ) had the highest strength and ductility at both room and elevated temperatures (up to  $600^\circ\text{C}$ ). For example, at room temperature the tensile strength was  $45 \text{ kg/cm}^2$ , the true tensile strength— $48 \text{ kg/cm}^2$ , the elongation— $3.6\%$  and the reduction in area— $4.0\%$ ; at the temperature of maximum ductility, the elongation and reduction of area was 60 and 66%, respectively. Mechanical properties of sintered and of hot-compacted beryllium differed only slightly. But, generally, nonextruded, sintered and hot-compacted beryllium had comparatively low strength and ductility. However, after extrusion, the strength and ductility increased by 2—3 times; the yield strength increase was less pronounced. Cast beryllium was more brittle than beryllium prepared by the powder-metallurgy method; it remained brittle even with heating to  $400^\circ\text{C}$ . The values of the strength and ductility obtained in compression tests were noticeably higher than those obtained in tension tests. Orig. art. has: 14 figures and 2 tables.

(M)

ASSOCIATION: none

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ATD PRESS: 4042

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KOZLOV, N.; KOSTOGLODOV, I., inzh.; SANOV, K.

Aviation abroad. Grazhd. av. 12 no.7:35-39 J1 '55.  
(Aeronautics, Commercial)

(MIRA 11:6)

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Service data on link rods. Grashd. av. 13 no.3:28 Mr '56.  
(Airplanes--Engines) (MIRA 9:7)

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Preventing splits in propeller shafts. Grazhd.av. 13 no.8:  
28-29 Ag '56. (MLRA 9:10)

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Yield increase of rubber in the roots of two-year  
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9. Monthly List of Russian Accessions, Library of Congress, September 195<sup>2</sup>~~8~~, Uncl.

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A.A., kand. tekhn. nauk, red.

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sibirsk, Novosibirskoe knizhnoe izd-vo, 1962. 66 p.  
(MIRA 18:5)

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circulation inspectors. Den. 1 kred. 16 no.9:51-53 S '58.

(MIRA 11:10)

(Banks and banking)

COUNTRY : USSR  
 CATEGORY : Farm Animals  
           The Honeybee.  
 ABS. JOUR. : RZhBiol., No. 3, 1959, No. 12109  
 AUTHOR : Postoglodov, V. F.; Novikov, V. Kh.  
 LIST. :  
 TITLE : An Advanced experiment in Apiculture at the  
           All-Union Agricultural Exhibit in 1958.  
 ORIG. PUB. : Pchelovodstvo, 1958, No 5, 5-11.  
 ABSTRACT : During the years of 1956 and 1957 more than  
           400,000 persons visited the Apiculture pavilion  
           at the All-Union Agricultural Exhibit. On ex-  
           amples of kolkhozes and sovkhoses it was graphi-  
           cally shown that large honey yields may be ob-  
           tained when the intensification of the colonies'  
           strength is taken into account in time by tempo-  
           rarily utilizing a shift of auxiliary queens, by  
           multi-frame and horizontal beehive keeping, a  
           sufficient supply of honeycomb frames and feeds,

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COUNTRY : USSR  
 CATEGORY :

ABS. JOUR. : RZhBiol., No. 1959, No.

AUTHOR :  
 LIST. :  
 TITLE :

ORIG. PUB. :

ABSTRACT : etc. A network of scientific apiculture in-  
           stitutions have been created during the years  
           of Soviet regime: the Scientific Research  
           Institute of Apiculture (at the settlement of  
           the Rybnsya Ryazanskaya oblast'), the Primor-  
           skaya, Orlovskaya, Kemerovskaya, Tatarskaya,  
           Bashkirskaya, Ukrainskaya, and Kazakinskaya  
           Experimental Stations of Apiculture, the de-  
           partments of Apiculture of the Krasnoyarskiy,  
           Kirovskiy and Voronezhskiy Farm Institutes,  
           the Maykopskiy Base of the Krasnodarskiy Farm

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KLIMENKOVA, Ye.T.; SAZYKIN, Yu.V.; SHEMETKOV, M.F.; SULKOVSKIY,  
M.I.; KOSTOGLODOV, V.F.; SHUL'GA, K., red.; ZUYKOVA, V.,  
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(MIRA 16:4)

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